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Europäisches Patentamt
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Office européen des brevets

11 Publication number:

0 322 218
A3

12

EUROPEAN PATENT APPLICATION

21 Application number: 88312122.0

51 Int. Cl.⁵: G02B 6/12 , G02B 5/32

22 Date of filing: 21.12.88

30 Priority: 21.12.87 US 135706

43 Date of publication of application:
28.06.89 Bulletin 89/26

54 Designated Contracting States:
AT BE CH DE ES FR GB GR IT LI LU NL SE

68 Date of deferred publication of the search report:
28.03.90 Bulletin 90/13

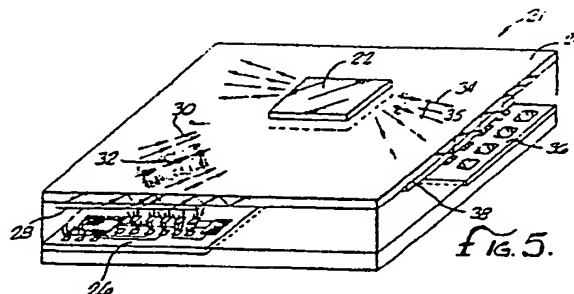
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54 Holographic planar optical interconnect.

57 An optical interconnect employing planar volume Bragg hologram technology in two dimensions comprises a dichromated gelatin planar volume Bragg hologram (22) disposed in a glass planar optical path (24). Multiplexed Bragg plane sets selectively diffract information-bearing light signals such as voice, image, or computer data signals in a VLSI system from a laser diode or LED source (26) coupled to the planar optical path (24) toward high-speed photodiodes. The holographic planar optical interconnect can interconnect up to 1000 different signals between VLSI microelectronic components and systems.



EP 0 322 218 A3



European Patent
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EUROPEAN SEARCH REPORT

Application Number

EP 88 31 2122

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
Y	PATENT ABSTRACTS OF JAPAN vol. 11, no. 340 (P-634)(2787), 7 November 1987; & JP - A - 62 123 411 (CANON INC.) 04.06.1987	1	H 04 B 9/00 G 02 B 6/12 G 02 B 5/32
A	idem ---	11	
Y	IBM TECHNICAL DISCLOSURE BULLETIN vol. 24, no. 7B, December 1981, page 3881, Armonk, USA; H.E. KORTH: "Integrated optical system with arbitrarily oriented light-guiding elements" * the whole document *	1	
A	PATENT ABSTRACTS OF JAPAN vol. 10, no. 341 (P-517)(2397), 18 November 1986; & JP - A - 61 144 608 (OMRON TATEISI ELECTRONICS CO.) 02.07.1986 ---	1,8,11, 17	
A	PATENT ABSTRACTS OF JAPAN vol. 10, no. 348 (P-519)(2404), 22 November 1986; & JP - A - 61 148 405 (OMRON TATEISI ELECTRONICS CO.) 07.07.1986 ---	17	TECHNICAL FIELDS SEARCHED (Int. Cl.4) H 04 B G 02 B
A	ELEKTRONIK no. 26, 23 December 1986, pages 81-88; K.-R. HASE: "Rechnerinternes optisches Bussystem mit Lichtleiterplatte" * abstract; page 82, line 1 - page 83, paragraph 1; figure 2 *	1,8,11, 18,19	
A	EP-A-0 196 933 (THOMSON-CSF) * abstract; column 3, line 25 - column 4, line 29; claims 1,3,5,7; figures 1,2 * --- -/-	1,8,11, 18,19	
The present search report has been drawn up for all claims			
Place of search BERLIN		Date of completion of the search 24-11-1989	Examiner HYLLA W R
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
A,D	PROCEEDINGS OF THE IEEE vol. 72, no. 7, July 1984, pages 850-866; J.W. GOODMAN et al.: "Optical Interconnections for VLSI Systems" * abstract; page 861, right column, paragraph 4 - page 862, left column, last but one paragraph *	1,8,11, 18,19	
A	EP-A-0 150 929 (TEXAS INSTRUMENTS INCORP.) * abstract; page 2, line 21 - page 3, line 6; page 6, paragraph 2; claims 1,7; figures 1,2,5 *	1,17-19	
A,D	OPTICAL ENGINEERING vol. 25, no. 10, October 1986, pages 1109-1118; L.A. BERGMAN et al.: "Holographic optical interconnects for VLSI"	1,17-19	
A,D	APPLIED OPTICS vol. 24, no. 17, 1 September 1985, pages 2851-2858; R. K. KOSTUK et al.: "Optical imaging applied to microelectronic chip-to-chip interconnections"		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
Place of search BERLIN		Date of completion of the search 24-11-1989	Examiner HYLLA W R
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